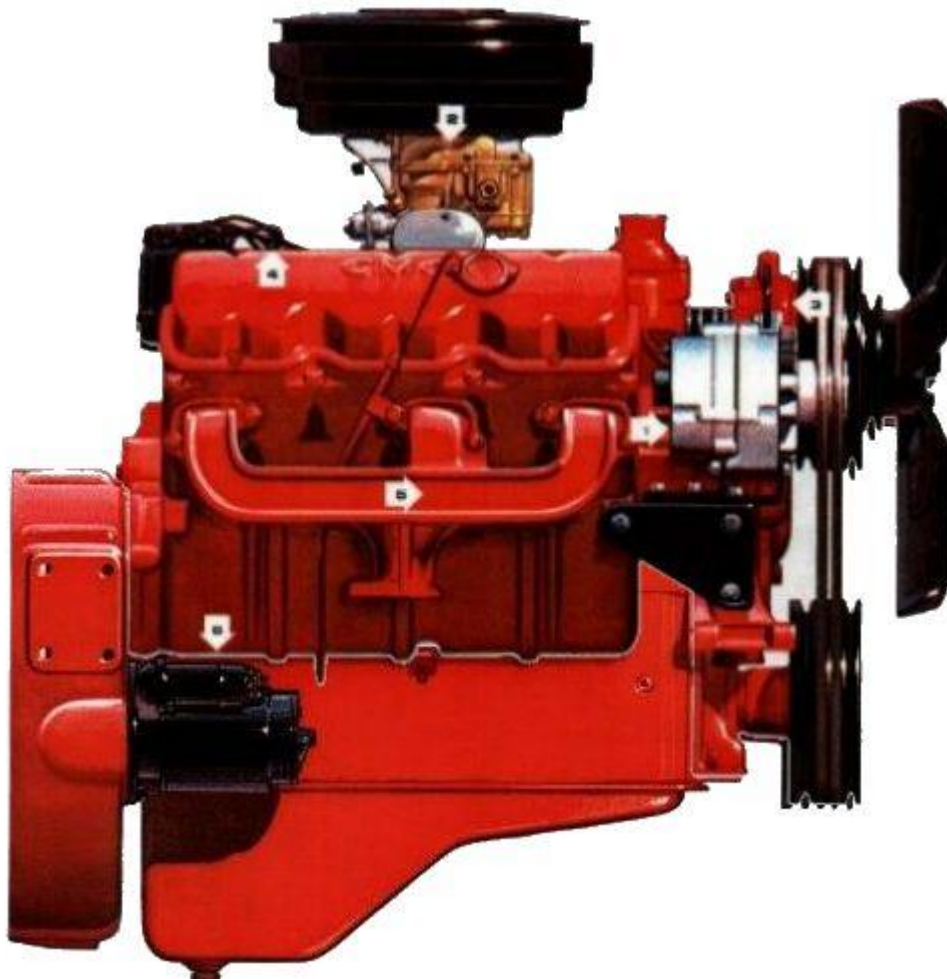


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HERE'S THE INSIDE STORY GMC's V-6 ENGINE

... & WHAT IT MEANS TO YOU !

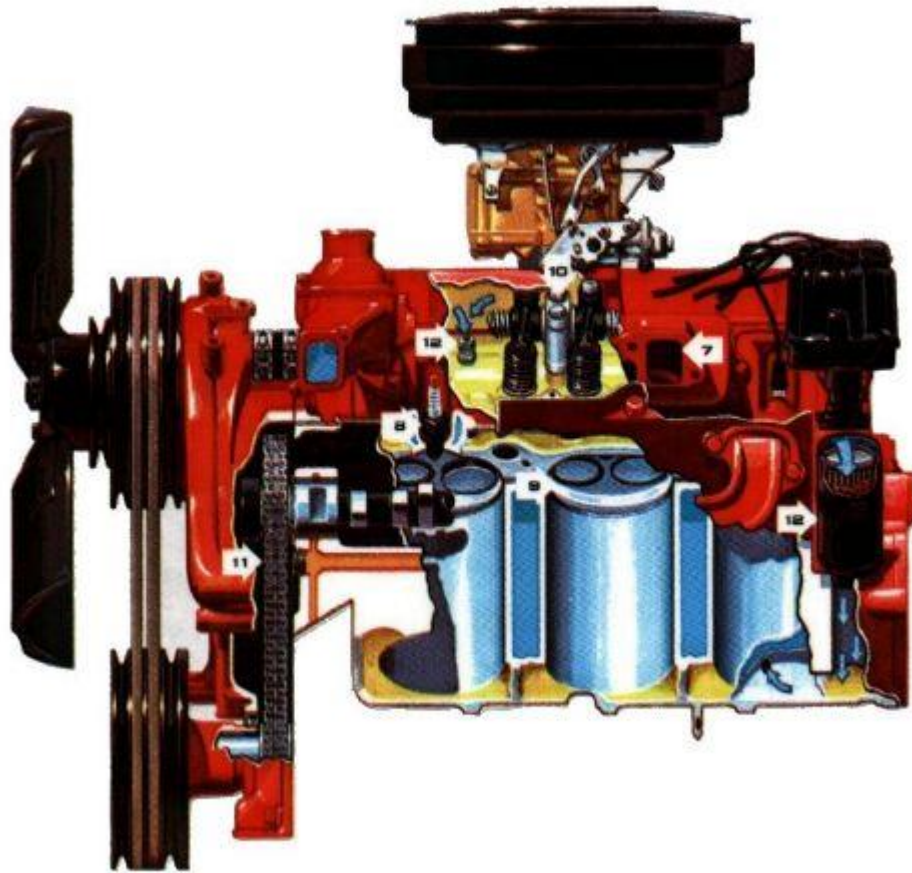


1. **BATTERY SAVING GENERATOR** Delcotron alternating-current generator charges battery even when engine idles. Battery stays more fully charged, gives super starts, & it lasts longer.
2. **SIMPLIFIED CARBURETION** Highly efficient two-barrel carburetor rations regular-grade gasoline to the engine. Simple design means easy servicing -- & it's seldom required.
3. **GIANT-CAPACITY WATER PUMP** A V-6 water pump, with up to three times the capacity of pumps in comparable engines, drives more water to cool more evenly.
4. **PROTECTED IGNITION WIRING** Wires are short & designed to remain trouble-free.

Instead of looping around & over the cylinder banks, they're neatly nested between the banks.

5. FREE-FLOW EXHAUST MANIFOLD Identical left & right exhaust manifolds of special alloy iron & highly resistant to cracking & warping by extreme temperature changes. Large individual ports for each cylinder & short, large diameter passages permit more complete scavenging of exhaust gases. Result is better fuel economy, longer life, & better performance.

6. POSITIVE-ACTION STARTER There's no hit-or-miss starting with this powerful, solenoid-shift starter. Before the pinion rotates, it-shifts forward into full mesh with the flywheel.



7. SHORT INTAKE MANIFOLD with individual ports for each cylinder are a special feature of this engine. Individual ports permit faster intake & more uniform distribution of fuel-air mixture to each cylinder. Because manifolds are short & have a minimum of bends & curves, too rich or too lean fuel mixtures, usually found in longer in-line or V-8 engines are completely eliminated. This results in much better fuel economy, cleaner, more complete combustion & greater engine efficiency.

8. LONG-REACH SPARK PLUGS New, long-reach spark plugs have greater surface area

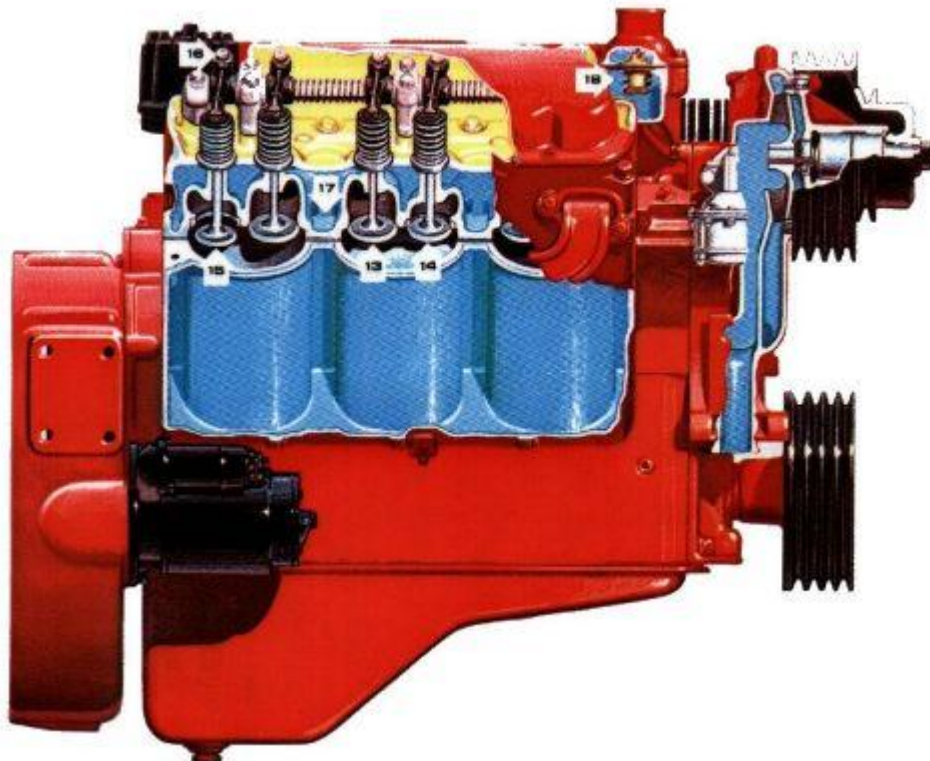
in contact with cooling passages. These cooler running plugs stay cleaner so they last longer. Spark plugs, located inside the "V", away from hot exhaust manifolds, run cooler, have much shorter wires, & are easy to service.

9. FULLY-MATCHED COMBUSTION CHAMBERS Smooth, precision-machined combustion chamber minimizes carbon deposits, hot spots & pre-ignition. & there is uniform combustion in all 6 cylinders for smoothest engine operation. 6 equally-spaced head bolts surround each cylinder to reduce bore distortion, & guarantee gasket sealing for long engine service.

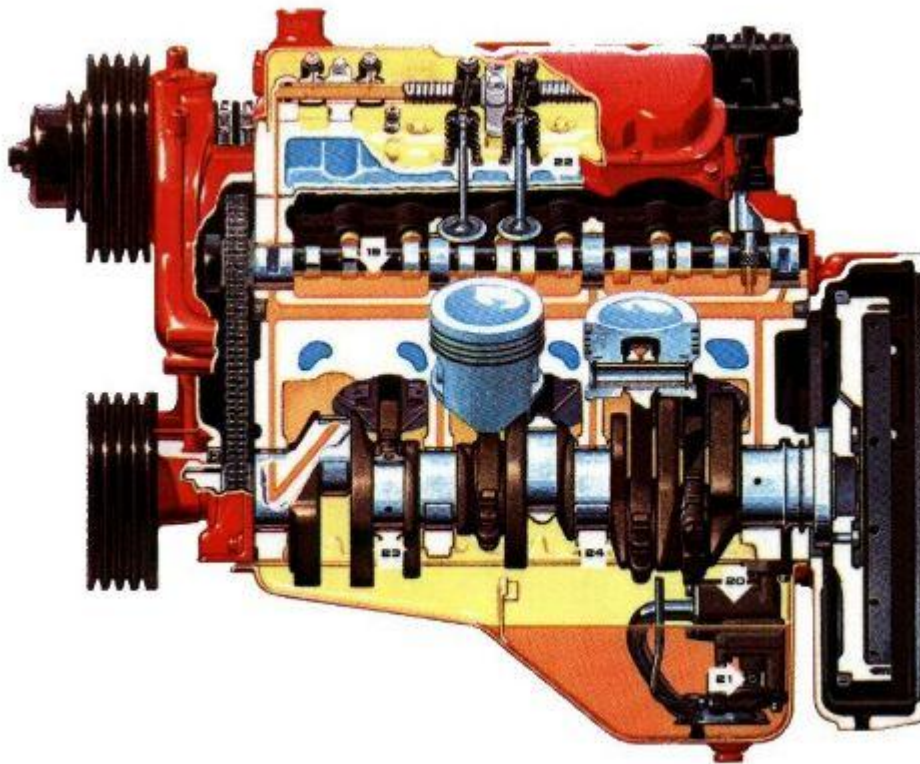
10. SELF-ADJUSTING BRACKETS Valves operate efficiently at any engine temperature, The hardened steel rocker arm shaft is held firmly in place by 5 aluminum brackets. As valves warm up & expand, brackets expand too, assuring proper valve clearance under all operating temperatures. The engine runs quieter with fewer valve adjustments needed, valve life is extended. Brackets at both ends of the shaft, & one bracket between each set of rockers arms holds shaft deflection in check.

11. RELIABLE TIMING LINKAGE V-6 roller timing chains are double-strand, for double durability. They're quit, & positive in action, models 401 & up have a three-gear train.

12. POSITIVE CRANKCASE VENTILATION Blue arrows show how clean filtered air enters crankcase, flushes harmful fumes up to combustion chambers where they burn. Fully enclosed system.

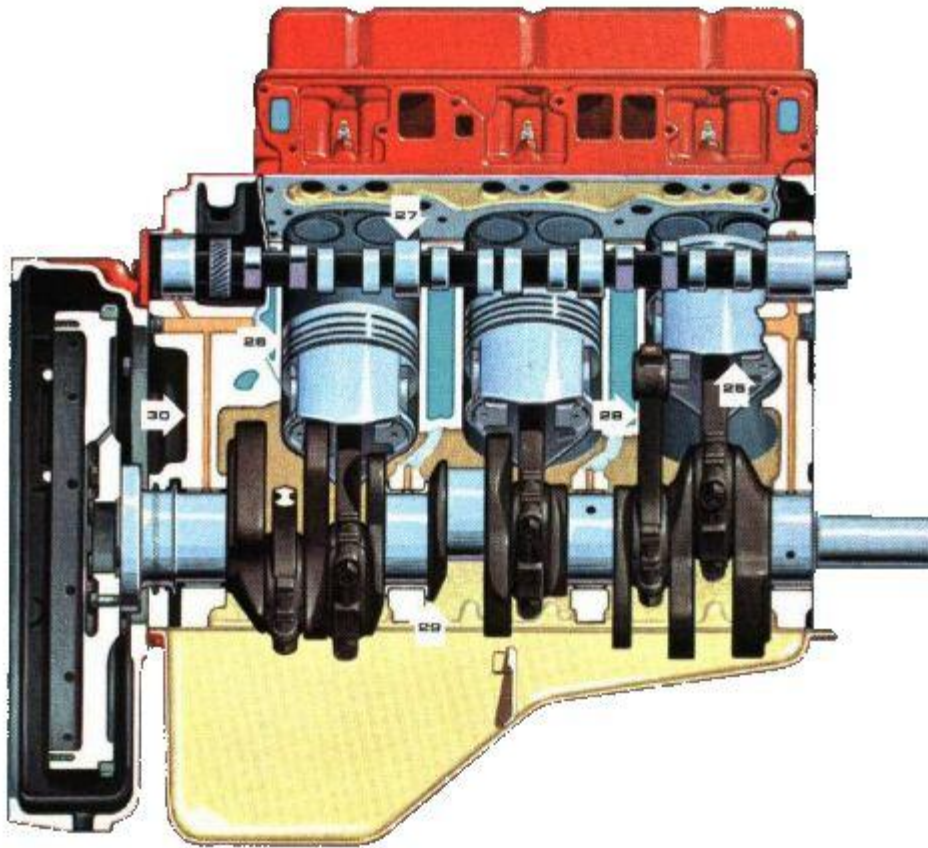


13. **FREE-BREATHING INTAKE VALVES** Forged from steels with high resistance to warping, pitting, & wear, extra-large intake valves let the V-6 breath freely, for higher volumetric efficiency.
14. **FREE-VENTING EXHAUST VALVES** Compared with other engines of equal displacement, V-6's have the largest exhaust valves of all -- to keep back pressure low, efficiency high.
15. **HARD FACES & INSERTS** Tough, Silchrome XB-steel exhaust valves, hard-faced with Ni-Chrome--plus long-life valve seat inserts are standard on the model 351 V-6 & up.
16. **EASY VALVE ADJUSTMENT** Self-locking adjusting screws s-t-r-e-t-c-h the time between valve adjustments -- & then lighten the work; it's a simple & inexpensive one wrench job.
17. **COOL-RUNNING VALVES** Torrent of water cool V-6 valves, valve seats & guides. This preserves engine efficiency, lengthens valve life, cuts the cost of engine maintenance.
18. **LEVEL-TEMP COOLING SYSTEM** Here's uniform cooling efficiency & prevents trouble -- coolant temperatures vary less than four degrees throughout the entire V-6 engine!



19. **"SCUFFPROOFING" DIP** Before pressure lubrication takes over on engine starts, V-6 cam lobes dip into a special oil reservoir. No "dry scuffing" mere cam or valve-lifter faces!
20. **HIGH-POWERED LUBRICATION** A lot of steel is on the go inside a V-6 -- but it lasts because the high-powered, 14 gpm oil pump films all hard-working metal with life-saving lubricant.

- 21. TAMPERPROOF GOVERNOR** Exclusive hydraulic governor is in the oil pan. The shop can easily make authorized re-settings. Optional at extra cost on 351. Standard on 401 & up.
- 22. POSITIVE VALVE ROTATION** A positive ratchet action rotated every valve on each cycle. Contact surfaces stay clean for positive seating. Standard, 305C & up -- optional on 305E.
- 23. M400 CONNECTING ROD BEARINGS** Big, long-life M400 bearings are used in V-6 connecting rods. Low-friction tin & aluminum alloys are backed with a layer of steel for extra strength.
- 24. EXTRA-LARGE MAIN BEARINGS** Huge, M400 main bearings provide solid support for the crankshaft, & resist wear by spreading the load over extra square inches of bearing area.





- 25. SHORT STROKE DESIGN** It takes less travel of the V-6 piston to produce each mile of pulling power. The result -- less friction, less heat, less wear & less expense.
- 26. PRECISION-FITTED PISTONS** In every V-6 the big, deep-skirt aluminum pistons are weight-matched, & precision-fitted to the bores, a cast-in steel band controls heat expansion.
- 27. SHORT, RIGID CAMSHAFT** Extra-wide camshaft lobes are flame hardened & phosphate coated to resist wear. Four big bearings carry the shaft for precise valve operation.
- 28. RUGGED CONNECTING RODS** Piston power flows smoothly to the crankshaft through big, forged-steel, I-beam connecting rods -- all balanced to within the weight of a cigarette!

29. SHORT, STIFF CRANKSHAFT This husky crankshaft helps conserve engine power & extends bearing life, because it has the strength & balance to minimize deflection & vibration.

30. RIGID, RUGGED BLOCK This block has strength to spare for resisting internal strain -- strength from it's super-tough iron alloy, staggered cylinders & short, deep-skirt design.

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